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PAUL ALMASY FROM THREE LIONS

IN MADAGASCAR THE FAMILY "BOARD" MAY BE A LEAF

Waiting to be fashioned into roofs, floor mats, and any number of other household needs, these piles of long, slim wands—split branches of the Ravenala (traveler's tree)—serve as picnic benches for a Malagasy family's outdoor meal. The Ravenala is one of the most useful forms of Madagascar's almost fantastic plant life. Except for one tree of the same family, they grow only on the big Indian Ocean island (page 11).

Political Unrest Is Not New to Palestine

TO turbulent Palestine, Holy Land of the Near East, political unrest is an old story. Today's three-sided controversy among Jews, Arabs, and the British adds a new chapter of turmoil to the small land which stretches southeastward from the blue waters of the Mediterranean.

Palestine contains some of the world's oldest and most famous battlegrounds. It saw the early, Bible-recounted struggles of the Canaanites, the Israelites, and the Philistines. It felt the invading forces of the Pharaohs, of Alexander the Great, the Saracens, the Crusaders, Napoleon, and the Turks. League of Nations mandate placed Palestine under British supervision after World War I.

Offered Natural Sites for Battle

With its open coast, its easy mountain passes, and the north-south channel of the Jordan Valley, Palestine was an inevitable traffic lane between expanding civilizations of the ancient Nile and the Euphrates.

The fertile Esdraelon Plain, framed by hills, and linking the maritime Plain of Sharon with desert routes leading north and northeast, was a natural arena. Its first historic battle occurred nearly 1,500 years before Christ at the Megiddo gateway to Esdraelon. There Thothmes III of Egypt defeated Syrian troops.

Contrasting with this fertile plain, Maryland-sized Palestine offers much desert and near-desert, 3,000-foot hills, and the lowest spot on earth —the Dead Sea, 1,286 feet below sea level.

The elongate country is divided into three parallel bands of varied terrain and climate. First come the mild and productive coastal plains, much like southern California in appearance. Citrus groves, grainfields, and vineyards surround white-walled, red-roofed houses.

"River That Goes Down"

The central hill country into which the coastal region merges is marked by sharper weather contrasts, with frost and even an occasional snowfall. Pockets of fertility exist, but there are large areas of rough scrub country capable of supporting only a few sheep and goats.

The hills give way suddenly to the desertlike valley of the River Jordan—a deep trench along the boundary with Trans-Jordan. The river, one of the world's most extraordinary features, winds and twists in a great rift valley. It is well named Jordan, "river that goes down," for it drops sharply on its way from the fresh waters of Galilee (illustration, page 2) to the salt depths of the Dead Sea.

Industrial activity has grown considerably in recent decades, along with the population, which increased from about 750,000 in 1922 to an estimated 1,675,000 in 1943. But farming is still the outstanding occupation of Palestine.

Irrigation works (illustration, page 4) and imported methods have expanded production sharply. Citrus fruits normally form the leading export crop. Olives, other fruits, almonds, tobacco, grains, and vegetables

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SOPHIA PARSONS WOODMAN

AN ARAB SHEPHERD NEAR THE SHORES OF GALILEE (LEFT) HELPS ALONG A TEMPERAMENTAL LEAD SHEEP

The rest of the flock meekly follows along the road sloping north from Tiberias. This city, built during Christ's lifetime, was the capital of Herod Antipas, a protege of the Romans. Scorned by Jews then as the work and refuge of foreigners, Tiberias today is almost completely Jewish in population (page 3).

Kalgan Caravan Routes Bring Trade and War

IN Kalgan, recently captured by Chinese nationalist forces, the traditional camel still vies with trucks and freight cars. For centuries the "ship of the desert" has brought prosperity to Kalgan over the caravan routes piercing Mongolia and the Gobi. Today's roads and railroad, connecting this edge-of-the-desert city with the sea to the southeast, still leave the camel supreme in the sandy spaces west and north.

Located 100 miles northwest of Peiping, at the entrance of rugged but well-traveled Nankow Pass (illustration, page 6), Kalgan dominates an age-old highway used by such early travelers as Genghis Khan and Marco Polo. The city's Chinese name is Wanchuan.

Kalgan Was Communists' Military Capital

Chinese and Mongol have met at Kalgan for centuries. It has been a revolving door on the shifting border between coastal, densely populated China and the interior desertlands of Asia. Commerce and warfare have kept the door revolving.

In the fighting between Chinese communists and nationalists, Kalgan has been a prime objective of Chiang Kai-shek's army. The city was the military capital of Chinese communist forces.

Kalgan's caravan routes were long the hunting ground of 10,000 bandits. As late as 20 years ago, every camel, cart, or automobile that went west through Kalgan was likely to be robbed before it had proceeded 50 miles. The city called a meeting of bandit chiefs and agreed to pay a tax —the equivalent of $5—on each camel crossing brigand territory. Under this arrangement as many as 13,000 camels left Kalgan in a week; more than a million were used on the caravan routes.

Before the Trans-Siberian Railway was built, the caravans passing through Kalgan carried most of Europe's tea. Camel bells tinkled through narrow streets and lanes bordered by low warehouses, temples and mosques, shops, and little theaters. Venders' stalls lined crowded streets.

Heavy Industry Competes with Fur and Wool Trade

Many of Kalgan's estimated 150,000 residents (70,000 before the war) continue to live in baked-mud houses, but the city also contains bungalows of the foreign colony, which before the war included some Americans. Missionaries represented many nationalities.

With ample supplies of coal and iron near by, Kalgan developed before and during the war as an industrial center. Large smelting works, many fur-dressing and wool-processing establishments, and other factories sprang up or expanded. The city had long been a fur and camel-wool trade center. The railroad line to the sea, opened in 1911, annually exported millions of dollars worth of Mongolian products.

Kalgan's factories were kept busy during the eight years of Japanese occupation. They produced rubber boots, bicycle tires, porcelain, leather, flour, cigarettes and matches, artificial ice, lacquer and varnish, vegetable oils, bone fertilizer, and electric power.

North and west of the city, the sky line is silhouetted by the great Chinese Wall and its watch towers atop the uneven mountain ridge. The

are successfully grown. Dairying, bee keeping, and poultry raising are also expanding.

Throngs of pilgrims long provided a peacetime industry. Jerusalem, capital of Palestine, is a holy city to Christian, Jew, and Moslem.

Old ways and monuments, preserved, stand beside modern developments that make man-made contrasts as startling as those of nature. Across Palestine streaks the oil pipeline from Iraq that brings 20th-century power to an outlet at the port of Haifa. Flying boats land on the Sea of Galilee. And on the ancient Jordan is a hydroelectric plant.

From the earliest times, the peoples of Palestine have revolted against their overlords. There were struggles between neighboring tribes, between nomad and homesteader, shepherd and farmer.

NOTE: Palestine is shown on the National Geographic Society's Map of Bible Lands. A price list of maps may be obtained from the Society's Headquarters, Washington 6, D. C.

For additional information, see "American Fighters Visit Bible Lands," in the *National Geographic Magazine* for March, 1946; "The Geography of the Jordan," December, 1944*; "Bombs over Bible Lands," August, 1941; "Change Comes to Bible Lands," December, 1938*; and "Changing Palestine," April, 1934*; and in the GEOGRAPHIC SCHOOL BULLETINS, December 17, 1945, "Tel Aviv Is Palestine's Tailor-Made, All-Jewish City." (*Issues marked with an asterisk are included in a special list of Magazines available to teachers in packets of ten for $1.00.*)

BLACK STAR

ALERT ZIONISTS TAKE TURNS GUARDING PRECIOUS AQUEDUCT WATERS

NATIONAL PARK SERIES: No. 4

Isle Royale, Stranger to Cities and Roads

COPPER mining, fur trading, and lumbering have in the past exposed Isle Royale to civilization, but the Lake Superior island today is an unspoiled, relatively untouched primeval area. There are no roads for pleasure vehicles. It is the only national park in which automobiles are not allowed. Horses are also taboo. Visitors get about the many-harbored, townless island by boat or by foot.

Isle Royale resembles a 45-mile-long fish headed for Duluth. At its widest it is only nine miles across. It belongs to Michigan, though it is nearer Minnesota, and closer to Canada's Province of Ontario than to either. One of the newer national parks, and the only one in the Great Lakes area, Isle Royale was dedicated late last summer.

Wild Life Differs from That of Near-by Shores

A highly irregular coastline, indented with rocky, fjordlike bays and protected by innumerable outer islands and skerries, makes Isle Royale resemble Scandinavia. Its parallel mountain ranges reach 705 feet above lake level, which itself is 602 feet above sea level.

A thin cover of soil blankets the rocky base of the island and supports a surprisingly heavy growth of hardwood and coniferous trees. The vegetation differs from that of the surrounding mainland. Swamp and desert plants grow close together; mountain and plains types are neighbors. Gray moss hangs from trees as in Florida. Lichens (red and green), green ground moss, and myriad wild flowers make summer a colorful season. Several types of orchids skirt the swamplands.

Long isolation has made Isle Royale an animal sanctuary, but deer, bears, wolves, and porcupine (all common on the mainland) are missing. It is not known whether these animals have never made their way across the water, or whether, once established on the island, they have died out. The moose, haunting the inlands lakes and swamps, is the island's distinctive and most numerous animal (illustration, page 8).

The eerie call of the loon echoes at night, and sea gulls chatter among the cliffs by day. Poison ivy and poisonous snakes—those two vacation spoilers—have never made the jump from mainland shores to Isle Royale.

Pre-Columbian Man Mined Copper

All arrangements should be made in advance before visiting the island. During the navigation season, boats may be boarded at various places on the Great Lakes for the trip. Shortest passages are from Grand Marais, Minnesota, Copper Harbor, Michigan, and Houghton, Michigan. The island has three small hotels, but only one remained open during the war and offered service last summer. Camping may be done any place on the island, but provisions must be brought from the mainland.

Pre-Columbian Indians knew Isle Royale for its copper deposits. Their diggings, still visible, are computed to be 600 to 800 years old. The stone hammers with which small particles of copper were pounded out of rock have been found. Before pounding the rock, the aborigines heated it, then poured on cold water to crack it into workable pieces.

name Kalgan means gate, referring to the near-by gate in the wall. Another branch of the wall goes south of the city along the range through which Nankow Pass cuts. This range forms the recognized boundary between the north China Province of Hopeh and Inner Mongolia's Province of Chahar, of which Kalgan is the capital.

NOTE: Kalgan (Wanchuan) is shown on the Society's Map of China.

See also "Tai Shan, Sacred Mountain of the East," in the *National Geographic Magazine* for June, 1945; and "6,000 Miles over the Roads of Free China," March, 1944; and in the GEOGRAPHIC SCHOOL BULLETINS, December 10, 1945, "Kunchantang, Chinese Communist Party, Controls North Lands."

GILBERT GROSVENOR

CHINA'S UP-AND-DOWN GREAT WALL DIPS AT NANKOW PASS FOR THE GATE TO KALGAN

Rebellious Tribes Upset Southwest Iran

IRAN'S southwestern province of Fars, scene of tribal uprisings against the government, was responsible for the name Persia by which the Middle Eastern land was known for 2,500 years.

In the 6th century B.C. the district name was Pars instead of Fars, and the Greeks had a word for it—Persis. Gradually the Greek title was applied in slightly modified form to the whole kingdom. Only since 1935 have the Iranians asked the rest of the world to call their historic country by its present name.

The province of Fars touches the Persian Gulf. On the coast are the small ports, Bushire and Ganaweh, both scenes of recent clashes between government garrisons and rebel Kashgai tribesmen.

Kashgais, 200,000 Strong, Roam Iran's Mountains

Arab fishermen and sailors live in the coastal villages. Date farmers inhabit the plain that lies behind the coast. Back of the plain, high limestone ranges necessitate passes a mile and a half high on the road from Bushire to the mile-high plain (illustration, page 10) that holds Shiraz, inland capital of Fars province. Forty miles northeast of Shiraz the road passes the ruins of the ancient city of Persepolis, then turns northward to Isfahan and Tehran.

The Kashgai tribesmen roaming the mountains with their livestock probably number more than 200,000. Like the Bakhtiari and the Lurs farther north, they are independent and are ferocious when aroused. They are one of the foremost of the many Iranian tribes whose nomadic numbers total three million or more.

Well armed, the Kashgais are skillful marksmen and have a mysterious knack of obtaining guns and ammunition. They made trouble for the British at Bushire during World War I. They are also proficient in the use of the sling as a weapon.

Bushire was long the chief seaport of Iran, but was handicapped by the fact that large ships must anchor in the open roadstead nearly five miles from the shallow port. Its 40,000 population of a few years ago has dropped sharply, given a downward shove by the development since 1941 of Khorramshahr and Tanuma (opposite Basra) as railheads and river ports in the Shatt-al-Arab at the head of the Persian Gulf.

Bakhtiari Tribe Is Centered Around Isfahan

Shiraz, the Fars capital, dates back at least 1,500 years, and at one time held more than half a million people, three times its present count. Rugs and carpets, textiles and sugar make it industrially important. Its lasting fame has come from poets and wine. It gave the country Sadi and Hafiz, perhaps its two greatest poets. Its wines have led some writers, ignoring the Spanish town of Jerez, to contend that Shiraz gave sherry its name.

The rebellion, which started with the Kashgais, spread north to the Bakhtiaris. These tribesmen, a quarter-million strong, roam with their

It is not believed the volume of copper the Indians mined was very great, although pieces of it have been found hundreds of miles away. Modern mining operations were not economically successful.

Tradition has it that Benjamin Franklin, at the Treaty of Paris in 1783, insisted on a border with Canada that would give Isle Royale to the United States. Though maps of the day showed the island farther south than it really was, its inclusion in the United States marked the only deviation in the middle-of-the-lakes boundary line with Canada.

Isle Royale's French name indicates its early discovery and exploration. Attracted by the stories of a copper-bearing island, some of Champlain's men may have reached it in the 1620's, the same decade in which Plymouth was settled. In 1658 it appeared on a map.

This largest of Lake Superior's islands has not only attracted botanists and zoologists to study its wild life, but geologists have found it an interesting field. Isle Royale is the only North American source of greenstone, or chlorastrolite, and is one of the two United States spots where thomsonite is found.

NOTE: Isle Royale is shown on the Society's Map of the United States.

See also "Winter Sky Roads to Isle Royal," in the *National Geographic Magazine* for December, 1931*; and "Michigan, Mistress of the Lakes," March, 1928.

FRANK M. WARREN

MOOSE WANDER IN NATURAL FREEDOM THROUGH ISLE ROYALE'S LAKES AND WOODS

This cow (no antlers) has been feeding in water six feet deep. Her upper muzzle hangs loosely over her chin—an aid in browsing for meals of moss, leaves, twigs, bark, and succulent vegetation growing in swamps and on shallow lake bottoms. The moose is the largest member of the deer family.

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Zoolike Animals Haunt Madagascar's Wilds

MADAGASCAR, the world's fourth-largest island, which this year observes its fiftieth anniversary as a French colony, is like a huge tropical zoo and botanical garden combined. In its central highlands, its tropical forests, and its arid southwestern desert grow curious plants and animals. More than three-quarters of Madagascar's trees and shrubs were originally found only on that Indian Ocean island.

Although Madagascar may have been connected with Africa long ago, much of its natural life bears little resemblance to that of the continent 240 miles to the west across Mozambique Channel.

The island, 980 miles long and nearly the size of Texas, has none of Africa's big game. There are no lions, no elephants, not even monkeys to chatter in the coastal forests of palm, ebony, mahogany, and sandalwood.

Furbearing Animals Fly Through the Night

But lemurs, furry little creatures with many monkey characteristics and long, fluffy, striped tails, prowl through the jungles at night. These small animals range in size from three inches to three feet.

A relative of the lemur, the aye-aye—named for its cry—has eyes which make it possible for it to work in the dark. Another lemur cousin, its legs joined bat-fashion by a membrane, glides through the branches of the trees. Joining this fly-by-night collection is the huge fruit bat with a four-foot wingspread.

Chameleons live in the island's forests. These quick-change performers protect themselves by assuming the color of their background. Crocodiles infest the rivers. They are the only dangerous animals on Madagascar. In the ground are fossils of huge extinct animals and birds. In the museum at Tananarive, capital of the island, is the skeleton of an Aepyornis, prehistoric bird about twice the size of an ostrich.

Among plants, one of the most useful is the traveler's tree. Known botanically as *Ravenala madagascariensis*, it resembles a palm. At the top of the tree long, slender branches spread out like the spokes of a fan. Quantities of water collect in its crown of leaves. To get a refreshing drink, all the thirsty traveler has to do is pierce a stalk. The entire tree can be utilized. It provides timber to build huts, leaves to thatch the roofs, and bark to cover the floors. Small pieces of the leaves are fashioned into spoons, cups, and plates (illustration, cover).

Tree Furnishes Candlelight

Another peculiar plant is the rain tree, so called because water showers down from a host of insects which cover its leaves. From the candlenut tree are picked seeds which can be strung together and burned as a candle. Orchids and ferns grow abundantly in the damp forest areas.

The flame-flowered *Poinciana regia* and other blossoming trees, while not peculiar to Madagascar, grow in tropical profusion in areas with sufficient rainfall, like the forest regions of the east coast. In the central uplands the banyan, aerial-rooted tree of the *Ficus* family, grows to a great size and age. The baobab, sometimes 30 feet in diameter, is often hollowed out and used for storage.

herds in the high mountains around Isfahan. The Bakhtiaris make their mile-high city the leading market between Tehran and Shiraz.

Isfahan's population of 200,000 makes it Iran's third city, ranking after Tehran and Tabriz. Little touched by World War II, it has gained industrially in recent years. It holds a score of cotton mills and knitted-goods factories—half the textile industry of Iran. The city is known for carpets, brocaded cloth, metal goods, lacquer work, saddles, and pottery.

Once the glittering capital of Iran, Isfahan fell to an Afghan invasion in 1722 and faded in importance. The capital moved to Meshed, then to Shiraz, and finally to Tehran. But its former greatness has left a lasting mark in Isfahan's Royal Square, many mosques, and other fine structures.

Rich oil deposits in the mountains between Isfahan and the Persian Gulf are worked by the Anglo-Iranian Oil Company. Their revenues bring new hospitals and schools to the city and its hinterland. Even the tribesmen's families benefit from dispensaries, libraries, and classrooms rolling on trailers, following the nomads' perpetual hunt for green pastures.

NOTE: Iran appears on the Society's Map of Asia and Adjacent Areas.

See also "Mountain Tribes of Iran and Iraq," in the *National Geographic Magazine* for March, 1946; "Iran in Wartime," August, 1943; and "Old and New in Persia," September, 1939*; and "Revolution in Iran May Retard Its Postwar Plans," in the GEOGRAPHIC SCHOOL BULLETINS, December 10, 1945.

W. ROBERT MOORE

DRY CLODS STIRRED BY A CROOKED-STICK PLOW MAKE A POOR CROP BED

Scant rainfall adds to the Iranian farmer's woes. This level plain surrounds Shiraz, just to the left of picture. The clump of trees above the cattle-yoke marks the tomb of Sadi, one of Persia's greatest poets. In the mountain cleft beyond runs the road to Isfahan and Tehran.

Nearly four million Malagasy natives live on the island. They are divided into many tribes. Brown, rather than black, their ancestry is largely Malayan, Polynesian, and Melanesian. They have also a strong Arab strain. Their forebears, anthropologists conclude, came from the east, not from neighboring Africa.

The Malagasy drape themselves in lengths of white cloth, worn in the style of old Roman togas. Women prefer parasols to hats, but, when these luxuries are not available, wear hats woven of palm braid.

Farming methods are primitive. Rice is the chief food. Before the war, 1,319,000 acres of this staple were under cultivation. Tananarive (illustration, below) climbs, with stairstep streets, the steep slopes of a hill which rises like an island from surrounding rice fields. Large herds of humped cattle graze the plains. There are meat-preserving factories at Tananarive and several other cities. The island supplies a large proportion of the world's vanilla, as well as manioc, from which tapioca is made, and cloves, graphite, mica, and some precious stones.

NOTE: Madagascar is shown on the Society's Map of Africa.

See also "Madagascar: Mystery Island," in the *National Geographic Magazine*, June, 1942*; and "Across Madagascar by Boat, Auto, Railroad, and Filanzana," August, 1929*; and these GEOGRAPHIC SCHOOL BULLETINS: "Madagascar Landscape a Freak Show of Nature," October 12, 1942; and "Madagascar, France's Queen Island of the Indian Ocean," May 11, 1942.

PAUL ALMASY FROM THREE LIONS

A TWO-MAN-POWER TANANARIVE TAXI TAKES THE HILL IN HIGH

The two-wheeled "pousse-pousse," taxiing a gentleman in Western attire up a typically steep street in Madagascar's capital, might well be called a "pousse-pouf" as its chauffeurs pull from the front and push from the back. In spite of the Malagasy's characteristic lack of enthusiasm for work, coolies navigate the carts with such vigor that they leave pedestrians behind on the trek uphill. Fashions of Occident and Orient mingle in this way station between Europe and India—the man walking downhill (left of taxi) couldn't seem to make up his mind and displays a little of each.